

Title (en)

Air-compressing reciprocating piston-type internal-combustion engine.

Title (de)

Luftverdichtende Hubkolben-Brennkraftmaschine.

Title (fr)

Moteur à combustion interne du type à pistons alternatifs et à compression d'air.

Publication

EP 0207049 B2 19941026 (DE)

Application

EP 86890095 A 19860404

Priority

AT 144285 A 19850514

Abstract (en)

[origin: US4676208A] An air-compressing reciprocating piston-equipped internal combustion engine comprises, in a piston head of the piston, a cavity being axially symmetrical about a central cavity axis and constituting a combustion chamber, as well as a fuel injection nozzle for injecting fuel directly into the said cavity. The nozzle has a longitudinal nozzle axis which encloses with the central cavity axis an acute angle. In order to generate a rotary motion of an air charge fed into the said cavity, there is provided a correspondingly designed air-feeding unit. A uniform distribution of the fuel in the cavity serving as combustion chamber is achieved by subdividing the cavity into imaginary compartments with the aid of dividing planes extending parallel with the central cavity axis, and each dividing plane through a different one of the axes through at least three orifices of the nozzle, in such a manner that the ratio of the fuel quantity ejected by a given nozzle orifice, in a specific injection phase, to the total amount of fuel ejected by all orifices of the nozzle during the same phase is about equal to the ratio of the volume of the respective imaginary compartment, following in the direction of air charge rotation after the said given nozzle, to the entire volume of the air charge in the piston cavity serving as the combustion chamber.

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IPC 8 full level

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CPC (source: EP US)

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